

Parvati Jayakumar

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EDUCATION

University of Washington, Seattle

Sep 2023 - Mar 2025 (Present)

MS | *Data Science*

Grade: 3.94/4

Indian Institute of Information Technology Dharwad

Aug 2018 - Aug 2022

B. Tech. | *Electronics and Communication*

Grade: 4/4

- Institute Gold Medal and Department Gold Medal for Academic Excellence

EXPERIENCE

Graduate Research Assistant

Sep 2024 - (Present)

UW Scientific Software Engineering Center, eScience Institute

Seattle, WA

- Develop a **RAG model** for the Vera C. Rubin Observatory (**LangChain**, **OLMo 2**, **TruLens**).
- Automate financial disclosure workflows for the [Office of Research](#) using **Apps Script** and **Power Automate**.
- Contribute to the frontend development of a **Flutter app** as a part of the [Post-Disaster Communications](#) project.

Data Science Intern

Jun 2024 - Sep 2024

Pearson Packaging Systems

Spokane, WA

- Developed a **Power BI tool** for the Inventory Department. The tool contributed to achieving company targets by increasing on-time delivery rates to over **95%** and reducing material costs to product cost by more than **50%**.
- Led the **Data Warehouse** project, establishing a pilot instance and developing a comprehensive **Microsoft Fabric** implementation plan. Leveraged **Azure Synapse Analytics**, **Data Factory**, and **Data Lake Storage Gen2** for a scalable lakehouse solution, integrating seamlessly with **Power BI**.

Data Analyst

Nov 2021 - Jun 2023

MiiCare

London, UK

- Analyzed health data for seniors and disabled individuals using **Python** and **Streamlit**, developing reports and algorithms for early detection of behavioral shifts.
- Led the development of MiiVoice, a voice-based mental health prediction system using **speech processing** and contributed to **NLP projects**, increasing customer engagement by **29%** (2021 Dec - 2023 Jun).
- Assisted in developing the **Acoustic Gait pattern classification ML model**. ([BSN 2023](#)), ([arXiv.](#))

PROJECTS

Biomarker Analysis in VAP Patients

Capstone Project

UW Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

Python, R, ML

- Analyze biomarkers and subphenotypes in Ventilator-Associated Pneumonia (VAP) using **clustering algorithms** to optimize treatment response strategies in critically ill patients.

Speech-to-Text and Text-to-Speech

[IEEE TENCON 2022](#), [GitHub-reference](#)

IIIT Dharwad

Python, Signal Processing, DL

- Developed Hindi speech ASR and TTS systems using **Deep Learning models (Wav2Vec 2.0, Tacotron2, Parallel WaveGAN)**. Fine-tuned models on labeled and unlabeled telephonic data to enhance performance.

SKILLS

- **Programming Languages:** Python (Familiar with: Pandas, NumPy, Matplotlib, Plotly, Seaborn, scikit-learn, TensorFlow, PyTorch), R, SQL, MATLAB, C/C++
- **Business Intelligence:** Power BI, Tableau
- **Database Management:** SQLite, MySQL, PostgreSQL, (Basic Familiarity: MongoDB, Microsoft SQL Server)
- **Cloud Technologies:** Microsoft Fabric, Azure (Data Warehousing components, Machine Learning)
- **Other Tools:** Git, GitHub, FastAPI, Streamlit, Docker, Kubernetes, Agile methodology